



CONSTRUCTION LABOR MARKET REPORT

2018

THE COLUMBIA-WILLAMETTE WORKFORCE COLLABORATIVE
Working together to support and develop regional talent.



In 2016, the Columbia-Willamette Workforce Collaborative (CWWC) published its first data report about the Construction industry. This report introduced the community to Construction as a high growth industry in the Portland-Vancouver Metro Area, and led the collaborative to building a Construction Workforce plan which launched in June 2017.

Since the 2016 report (which included data from 2013, 2014, and 2015), Construction has added more than 12,000 jobs – the most jobs in 2017, outpacing other fast-growing industries like Healthcare, Retail Trade, and Accommodation & Food Services. The impressive growth in 2016 and 2017 has spurred Construction employment past pre-recession levels. The industry is expected to add more than 11,000 jobs over the next decade, a growth rate of 17 percent.

The jobs being added in the Construction industry are high wage, averaging over \$25 an hour. Current and future building trends, both public and private, are rapidly increasing the demand for skilled tradespeople while one-fifth of the area's Construction workforce is at, or nearing, retirement age. The region has seen apprenticeship program completers in common Construction occupations (electricians, laborers, carpenters, etc.) more than double in the last three years, but the numbers remain well below what is needed to satisfy industry demand.

In October of 2016, the CWWC held a Construction Workforce Convening to discuss these challenges and to begin the process of engaging companies in the development of the 2017-2019 regional, industry-specific workforce plan. The plan helps the collaborative align the efforts of the public workforce system in support of shared workforce goals to maximize the overall impact for the industry.

Companies identified several areas of focus for a construction workforce plan, indicating a strong emphasis be placed throughout on better marketing the career opportunities, recruiting non-traditional construction workers, creating industry support tools such as mentoring to retain their workforce, and helping industry strengthen best practices for recruiting and screening the best candidates.

The CWWC works with employers and industry experts throughout the two-year plan, utilizing their skills and abilities to educate influencers with data-driven outlooks for careers in Construction, allocate resources for pre-apprenticeship, training, and screening capacity for women and people of color, and promote and provide standardized tools for jobsite culture success. Meeting with employers quarterly allows the collaborative to regularly engage the industry so that workforce development strategies adapt as the industry changes.

The 2018 report shows significant growth in the industry, and indicates that workforce development efforts are helping to support the success of the industry. The data indicates that Construction has considerable growth still to come, and the Columbia-Willamette Workforce Collaborative will be there to support regional employers, partners, industry experts, job seekers, and youth along the way.



ABOUT THE COLUMBIA-WILLAMETTE WORKFORCE COLLABORATIVE

The Columbia-Willamette Workforce Collaborative (Collaborative) is a partnership between Clackamas Workforce Partnership, Workforce Southwest Washington and Worksystems: the three Workforce Development Boards covering the Portland-Vancouver Metropolitan Area. The Collaborative delivers a unified approach to serving industry, supporting economic development, and guiding public workforce training investments to better address the needs of our combined labor shed.

We know that people are willing to travel throughout the region for the best opportunities and that employers need the most qualified workers regardless of where they live. By working together, we can cultivate our regional talent pool and build the foundation for a strong economy.



ABOUT THIS REPORT

The Collaborative is focused on aligning and investing resources to support the workforce needs of four sectors: Advanced Manufacturing, Health Care, Technology, and Construction. Sectors are chosen based on factors such as their economic significance to the region, current number of openings and job growth projections, average wages that support self-sufficiency, and career ladder opportunities across the skill continuum. By examining labor market intelligence (such as the data contained in this report) and vetting the information with business partners, we can better understand industry trends, identify current and emergent workforce needs, and develop customized solutions for each sector.

The Collaborative is dedicated to assuring this information is regularly updated and presented in a way that advances the region's capacity to understand and align regional workforce supply with business demand in key industry sectors.

OVERVIEW

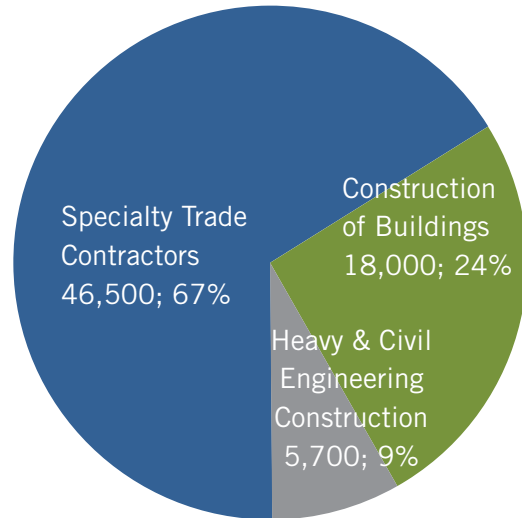
With over 70,000 jobs and a payroll of \$3.9 billion, Construction accounts for over five percent of the Portland-Vancouver metro area's private-sector employment and six percent of payroll.

The Construction sector contributed approximately \$6.8 billion to the metro area's Gross Domestic Product in 2017; 4 percent of all output.

Multnomah, Clackamas, and Washington counties account for three out of every four Construction workers in the Portland-Vancouver metro area.

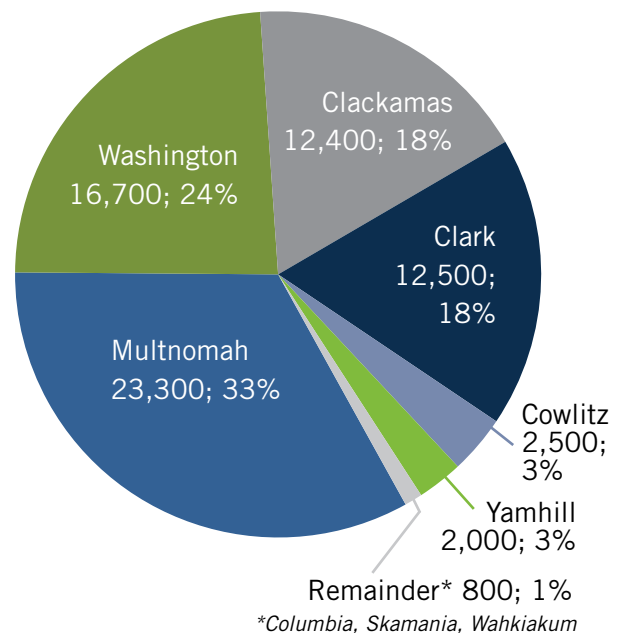
The Construction sector includes companies primarily engaged in the construction of buildings, engineering projects (e.g., highways), preparing sites for new construction, and specialty trades (e.g., painting, plumbing, electrical).

CONSTRUCTION EMPLOYMENT BY COMPONENT PORTLAND-VANCOUVER METRO AREA, 2017



Source: Oregon Employment Department & Washington Employment Security Department

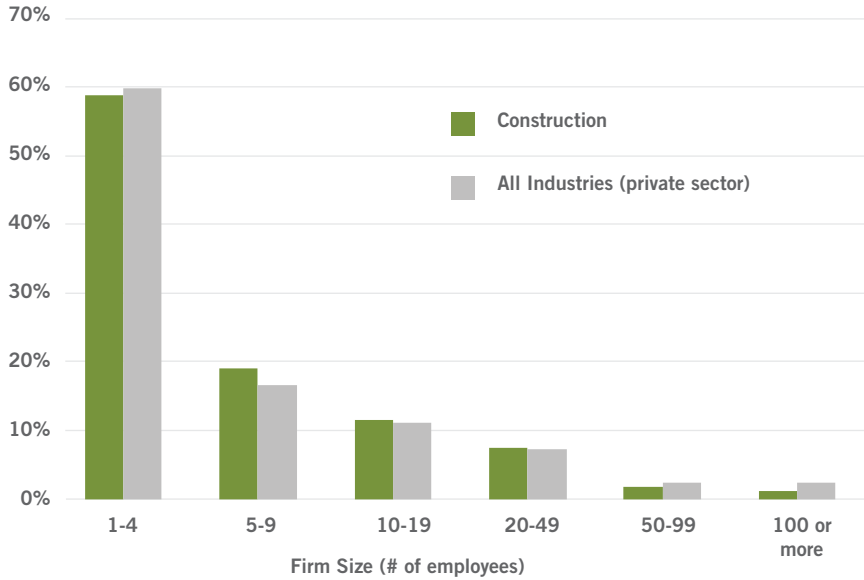
CONSTRUCTION EMPLOYMENT BY COUNTY PORTLAND-VANCOUVER METRO AREA, 2017



Source: EMSI

FIRM CHARACTERISTICS

**FIRMS BY SIZE CLASS: CONSTRUCTION
PORTLAND-VANCOUVER METRO AREA, FIRST QUARTER, 2017**



Source: Oregon Employment Department, Washington Employment Security Department

There are roughly 7,400 Construction establishments in the region.

The average size of a Construction firm is just over half that for all firms: 8 employees per company versus 14 overall.

Ninety percent of the region's Construction employment is in firms employing fewer than 20 people.

MAJOR EMPLOYERS

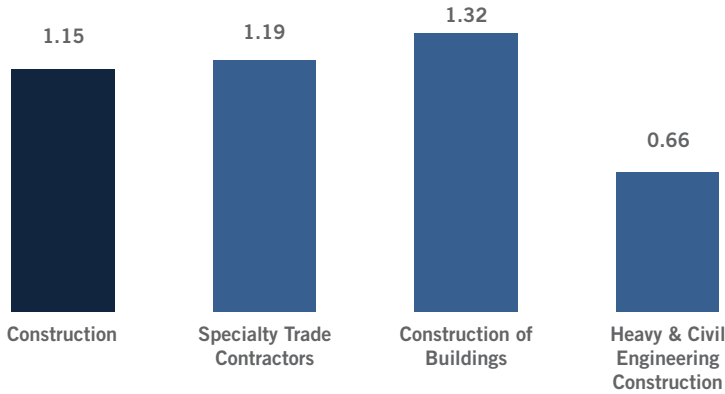
Hoffman Construction Co.	R&H Construction	Lorentz Bruun Construction
Skanska	Fortis Construction Inc.	P&C Construction
Andersen Construction Co.	Mortenson Construction	JH Kelly
Howard S. Wright, a Balfour Beatty Co.	Nutter Corp.	Kiewit Infrastructure West
Lease Crutcher Lewis	LMC Construction	Tapani Underground
Perlo Construction	TEAM Construction	Rotschy Inc.
Walsh Construction Co.	Deacon Construction LLC	Robertson & Olson Construction Inc.
LCG Pence Construction	JE Dunn Construction Co.	Pacific Lifestyle Homes Inc.
Turner Construction	Bremik Construction	Aho Construction I Inc.

Source: Portland Business Journal, Vancouver Business Journal, the Book of Lists, 2017
The List: Metro-Area Commercial & Civil General Contractors
Ranked by Commercial billings for Portland metro-area projects during 2016

CONCENTRATION

LOCATION QUOTIENTS CONSTRUCTION AND COMPONENTS PORTLAND-VANCOUVER METRO AREA, 2017

A location quotient greater than 1 indicates an industry with a higher concentration of employment relative to the nation.



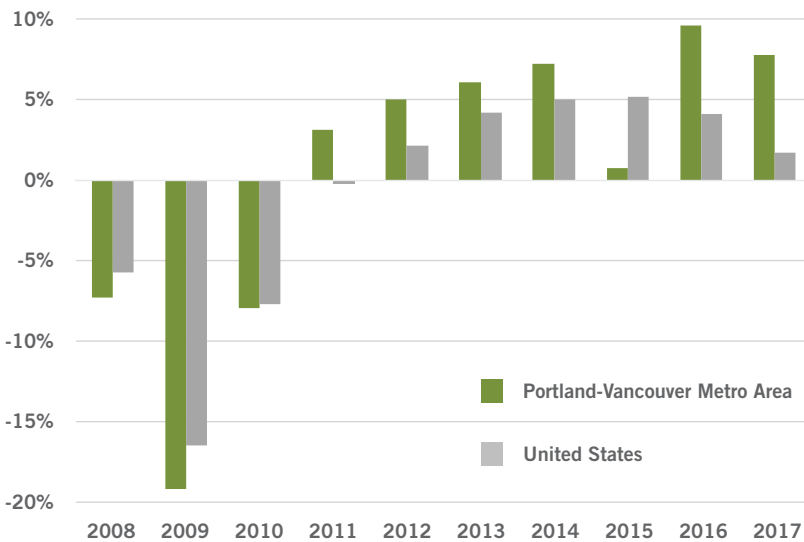
Source: EMSI

Location quotients are used to measure a sector's employment concentration in an area. A number greater than one indicates a higher concentration of employment relative to the nation. Construction employment is slightly more concentrated in the Portland-Vancouver region compared to the nation largely due to our size, and our population and job growth which fuels demand for housing and commercial space. Portland was the 19th fastest growing Metro in terms of job growth in 2017, adding 24,300 jobs.

Despite the low LQ for Heavy & Civil Engineering Construction, this sub-sector represents less than 10 percent of total employment in Construction. Construction jobs are found throughout the area, but are slightly less concentrated in Multnomah County (0.91) and more concentrated in Clackamas (1.51) and Clark (1.74) counties.

EMPLOYMENT TRENDS

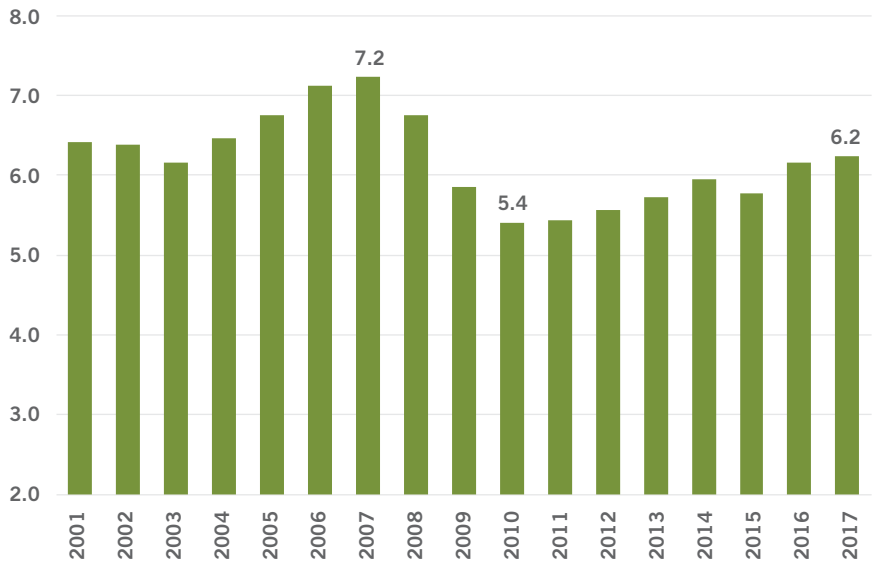
CONSTRUCTION ANNUAL GROWTH RATES PORTLAND-VANCOUVER METRO AREA VS. UNITED STATES



Source: EMSI

- Construction is a cyclical industry, with dramatic booms (1990s, mid-2000s, 2010-present) and busts (Great Recession).
- Construction was one of the hardest-hit industries in the recession, losing nearly one third of jobs (21,000).
- Since turning the corner in 2010, it has added jobs faster than its national counterpart.
- Construction added the most jobs in 2017, outpacing other fast-growing industries like Health Care, Retail Trade, and Accommodation & Food Services.
- The surge in growth since 2016 has led to Construction employment surpassing pre-recession levels in 2017.

CONSTRUCTION JOBS PER 100 PORTLAND-VANCOUVER METRO AREA



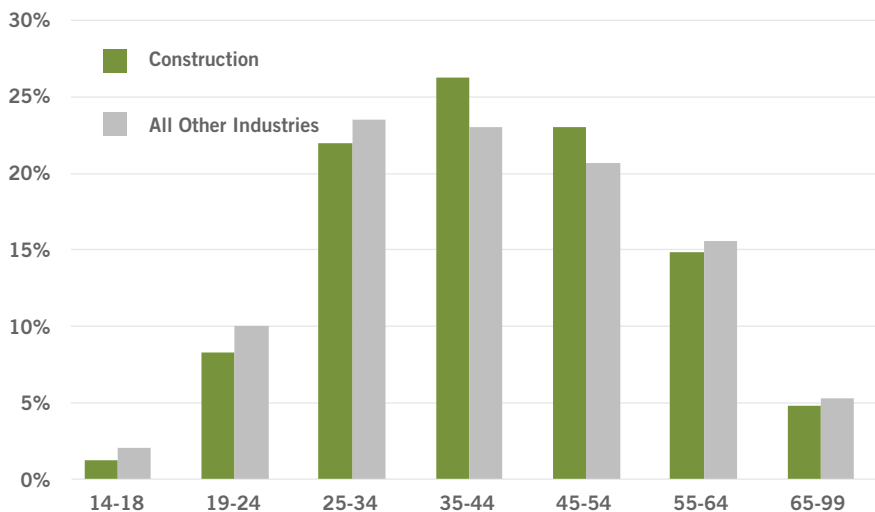
Source: EMSI

Construction accounts for about just over 6 out of every 100 jobs in the economy; economists consider a ratio between five and six healthy and sustainable over the long term.

During the housing boom, this ratio shot up to more than 7 jobs per-100; higher than normal.

CHARACTERISTICS OF THE WORKFORCE

CONSTRUCTION EMPLOYMENT BY AGE PORTLAND-VANCOUVER METRO AREA, 2017

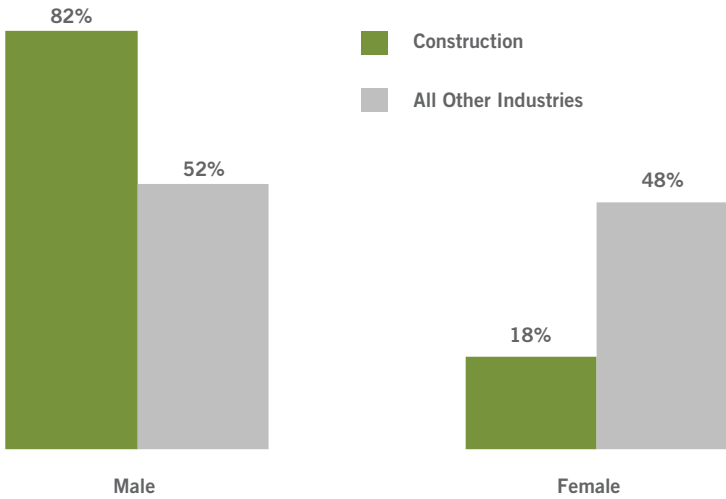


Source: EMSI

One-fifth of the region's Construction workforce is at, or nearing, retirement age (55 or older).

Despite booming enrollments in apprenticeship programs, the share of younger workers employed in Construction remains less than across all other industries. More young workers will be needed to not only replace oncoming retirements but new growth in the region as well.

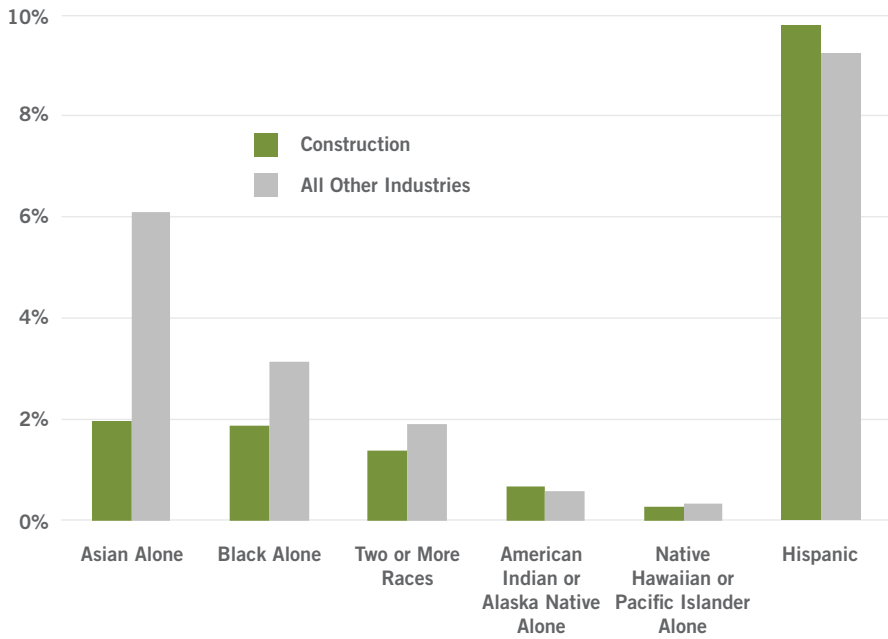
**CONSTRUCTION EMPLOYMENT BY GENDER
PORTLAND-VANCOUVER METRO AREA, 2017**



Source: EMSI

The Construction sector is overwhelmingly male; 82 percent of the workforce compared to 52 percent for all other industries.

**CONSTRUCTION EMPLOYMENT BY RACE (NONWHITE) AND ETHNICITY
PORTLAND-VANCOUVER METRO AREA, 2017**



Source: EMSI

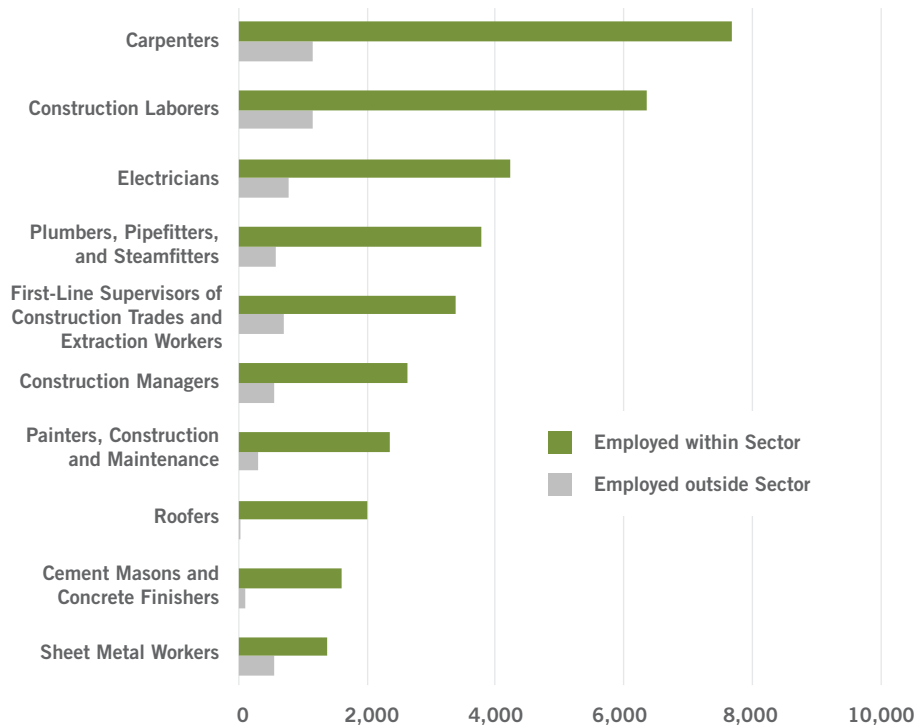
Whites make up the vast majority of the Construction workforce; 84 percent compared to 79 percent across all other industries.

Hispanics comprise a greater share of the workforce compared to all other industries, while Blacks and Asians are underrepresented.

Recognizing the underrepresentation of people of color and women in Construction, the industry has identified increasing diversity as a primary goal.

OCCUPATIONS

TOP 10 CONSTRUCTION OCCUPATIONS EMPLOYMENT WITHIN SECTOR VS. OUTSIDE OF SECTOR PORTLAND-VANCOUVER METRO AREA, 2017



Source: EMSI

Roughly 160 occupations are represented in Construction.

The top ten largest Construction occupations are relatively unique to the sector and not often found elsewhere in the economy.

TOP CONSTRUCTION OCCUPATIONS (ALL INDUSTRIES) PORTLAND-VANCOUVER METRO AREA

Occupation	2017	2027	Estimated Annual Openings	Estimated Annual Growth Openings
Carpenters	9,353	10,870	1,068	152
Construction Laborers	8,018	9,594	1,050	158
Electricians	5,277	6,218	722	94
Plumbers, Pipefitters, and Steamfitters	4,540	5,274	586	73
First-Line Supervisors of Construction Trades and Extraction Workers	4,397	5,215	541	82
Construction Managers	3,348	3,708	274	36
Painters, Construction and Maintenance	2,797	3,428	325	63
Operating Engineers and Other Construction Equipment Operators	2,217	2,485	282	27
Roofers	2,138	2,700	293	56
Sheet Metal Workers	1,972	2,193	238	22

Source: EMSI

The top Construction occupations have grown faster than anticipated since 2016. New to the list are operating engineers, painters, and sheet metal workers.

TOP CONSTRUCTION OCCUPATIONS (SECTOR): PORTLAND-VANCOUVER METRO AREA

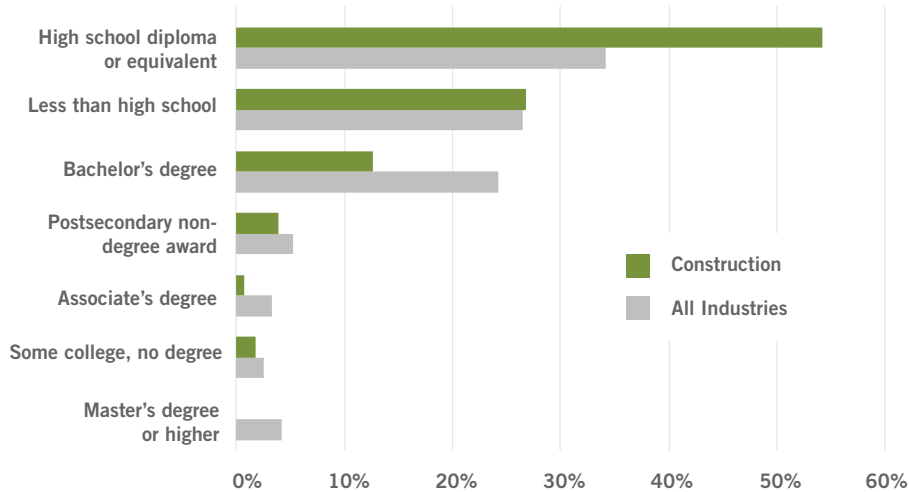
Occupation	2017 Sector Employment	% of Sector Employment	2017 Median Wage	% of Median Wage, All Occs.	Location Quotient	Typical Entry Level Education	Typical on-the-job-training
Carpenters	8,201	12.0%	\$23.23	118%	1.60	High school diploma or equivalent	Apprenticeship
Construction Laborers	6,840	10.0%	\$17.73	90%	1.03	No formal educational credential	Short-term on-the-job training
Electricians	4,494	6.6%	\$33.73	171%	1.01	High school diploma or equivalent	Apprenticeship
Plumbers, Pipefitters, and Steamfitters	3,967	5.8%	\$36.40	185%	1.27	High school diploma or equivalent	Apprenticeship
First-Line Supervisors of Construction Trades and Extraction Workers	3,666	5.4%	\$33.04	167%	0.96	High school diploma or equivalent	None
Construction Managers	2,785	4.1%	\$45.93	233%	1.56	Bachelor's degree	Moderate-term on-the-job training
Painters, Construction and Maintenance	2,457	3.6%	\$16.53	84%	1.46	No formal educational credential	Moderate-term on-the-job training
Roofers	2,107	3.1%	\$21.63	110%	2.13	No formal educational credential	Moderate-term on-the-job training
Cement Masons and Concrete Finishers	1,702	2.5%	\$21.45	109%	1.20	No formal educational credential	Moderate-term on-the-job training
Operating Engineers and Other Construction Equipment Operators	1,446	2.1%	\$28.45	144%	0.74	High school diploma or equivalent	Moderate-term on-the-job training

Source: EMSI

The top ten occupations make up over half of total employment. Occupations new to the list include roofers and cement masons.

EDUCATIONAL REQUIREMENTS

CONSTRUCTION EMPLOYMENT BY TYPICAL ENTRY-LEVEL EDUCATION PORTLAND-VANCOUVER METRO AREA, 2017



Eight out of every ten Construction jobs require a high school diploma or less.

Thirteen percent call for an Associate's degree or higher; a significantly smaller proportion than for all other industries (32%).

Nine of the ten largest occupations require an apprenticeship or moderate on-the-job training.

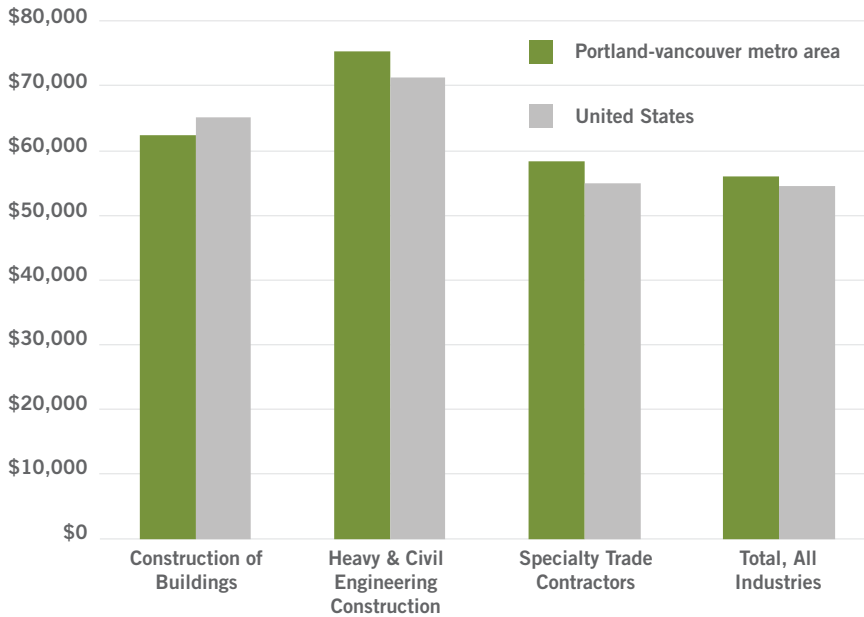
TRAINING AND DEGREE GRADUATE COMPLETER DATA FOR CONSTRUCTION-RELATED PROGRAMS PORTLAND-VANCOUVER METRO AREA

Training	2016 Completers	Type of Credential Granted			
		Award less than 2 years	Award at least 2 and less than 4	Associate's degree	Bachelor's degree
Building/Construction Site Management/Manager	9			9	
Lineworker	5	5		6	
Construction Trades, General	10			10	
Electrical and Power Transmission Installation/Installer, General	27	12		15	
Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician	179	168		11	
Industrial Mechanics and Maintenance Technology	3			3	
Operations Management and Supervision	18	4		4	
Welding Technology/Welder	394	355		39	
TOTALS	645	544	-	97	-

Source: EMSI

WAGES

**ANNUAL AVERAGE WAGES FOR COMPONENTS OF CONSTRUCTION:
PORTLAND-VANCOUVER METRO AREA AND U.S., 2017**



Source: EMSI

The average annual wage in Construction is \$60,800 which is about \$4,700 (8%) higher than the average across all industries in the region, and 2 percent higher than its national counterpart. Each component of Construction pays more than the average wage for all industries.

Recent wage growth across the United States in Construction of Buildings has spurred national wages to become more competitive. The Portland-Vancouver region now faces a four percent wage deficit relative to the national average.

**CONSTRUCTION
SHARE OF EMPLOYMENT BY HOURLY WAGE
OREGON, 2017**



Source: Oregon Employment Department Unemployment Insurance Wage Records

Construction's median hourly wage is \$24.19 (2017); 29 percent higher than that of all industries (\$18.71). There are relatively fewer lower paying jobs and more higher paying jobs than the overall economy. In Oregon, 36 percent of Construction workers earn \$30/ hour or more.

**CONSTRUCTION
SHARE OF EMPLOYMENT BY HOURLY WAGE
WASHINGTON, 2017**



In Washington, 44 percent of Construction workers earn \$30/ hour or more.

Source: Washington Employment Security Department

TURNOVER

**TURNOVER RATE IN CONSTRUCTION
PORTLAND-VANCOUVER METRO AREA, 2016**

Total, Construction	11.5%
Construction of Buildings	12.2%
Heavy & Civil Engineering Construction	10.5%
Specialty Trade Contractors	11.3%
Total, All Industries (private sector)	9.9%

Source: Oregon Employment Dept. analysis of U.S. Census Bureau (LEHD) data

Turnover refers to the change in the workforce due to employee separations and hiring. Construction has more turnover than the overall economy, however, it has decreased in the sector by 1.1 percentage points in the past two years (from 12.6 to 11.5 percent). The subsector of Heavy & Civil Engineering Construction experienced the most substantial reduction in turnover, reducing from 12.5 percent in 2014 to most recently 10.5 percent.

The higher rate of turnover relative to all other industries is likely due to the nature of the Construction sector: as projects are completed, many workers are laid off and rehired onto other projects. Some churn could also be attributed to a tightening labor market as the Portland-Vancouver region faces historically low levels of unemployment.

JOB VACANCIES

LARGEST NUMBER OF VACANCIES IN CONSTRUCTION-RELATED OCCUPATIONS PORTLAND TRI-COUNTY, 2017

Occupation	2017 Vacancies, All Industries
Total, Construction	3,186
Carpenters	747
Painters, Construction and Maintenance	480
Construction Laborers	229
Construction Managers	226
Heavy and Tractor-Trailer Truck Drivers	191
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	172
Electricians	163
First-Line Supervisors of Construction Trades and Extraction Workers	134
Light Truck or Delivery Services Drivers	131
Plumbers, Pipefitters, and Steamfitters	117
Sheet Metal Workers	109
General and Operations Managers	86
Transportation, Storage, and Distribution Managers	86
Fence Erectors	70
Interior Designers	46
Compliance Officers	38
Roofers	25
Receptionists and Information Clerks	23
Office Clerks, General	23
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	23
Installation, Maintenance, and Repair Workers, All Other	23
Operating Engineers and Other Construction Equipment Operators	13

Tri-County: Clackamas, Multnomah, Washington counties

NOTE: Information not available for SW Washington

Source: Oregon Employment Department, 2017 Job Vacancy Survey

CURRENT SUPPLY

REGISTERED JOB SEEKERS CONSTRUCTION, PORTLAND METRO AREA (OREGON PORTION)

Occupation	Jobseekers ¹
Construction Laborers	1,376
Carpenters	679
Painters, Construction and Maintenance	556
Operating Engineers and Other Construction Equipment Operators	343
Sheet Metal Workers	274
Plumbers, Pipefitters, and Steamfitters	210
Electricians	202
Roofers	189
Drywall and Ceiling Tile Installers	172
Cost Estimators	165

Portland Metro Area (Oregon portion): Clackamas, Columbia, Multnomah, Washington, Yamhill counties

NOTE: Information not available for SW Washington

Source: Oregon Employment Department

Jobseekers are those in active status in iMatch Skills, February 2018. Jobseekers can include more than one occupation so they may be counted more than once.

¹ Data represent job seekers registered with The Oregon Employment Department, iMatchSkills. Active status: February 2018. Data are self-reported.

Job seekers can include more than one occupation in their profile and are therefore counted more than once in the data. The unique count of job seekers for the above list of occupations is 2,652.

UNEMPLOYMENT INSURANCE CLAIMANTS SOUTHWEST WASHINGTON, JANUARY 2018

Occupation	Claimants ¹
Construction Laborers	183
Operating Engineers and Other Construction Equipment Operators	104
Construction Managers	62
Carpenters	47
Electricians	40
Painters, Construction and Maintenance	40
Roofers	30
Supervisors of Construction Trades and Extraction Workers	21
Sheet Metal Workers	18
Plumbers, Pipefitters, and Steamfitters	12
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	9
Cost Estimators	6
Drywall and Ceiling Tile Installers	5

Southwest Washington: Clark, Cowlitz, Wahkiakum, Skamania counties

Source: Washington Employment Security Department

In Southwest Washington, there were nearly 600 unemployed workers claiming unemployment insurance in Construction's 10 largest occupations (January 2018).

¹ Data represent claimants registered with The Washington Employment Security Department (active status, January 2018)

**TRAINING ENROLLMENT DATA FOR CONSTRUCTION-RELATED APPRENTICESHIPS
7-COUNTY PORTLAND MSA**

Occupation	Registered Apprentices (2017)	Share of Apprenticeships
Electricians	1,590	28%
Carpenters	978	17%
Plumbers, pipefitters, and steamfitters	748	13%
Drywall and ceiling tile installers	508	9%
Sheet metal workers	318	6%
Construction laborers	290	5%
Roofers	230	4%
Structural iron and steel workers	173	3%
Heating, air conditioning, and refrigeration mechanics and installers	101	2%
Operating engineers and other construction equipment operators	97	2%

Source: Bureau of Labor Industries

APPRENTICESHIP PROGRAM COMPLETERS, 7-COUNTY PORTLAND MSA

Occupation	2014	2015	2016	2017
Electricians	138	163	256	300
Carpenters	38	37	76	199
Plumbers, Pipefitters, and Steamfitters	33	55	68	116
Construction Laborers	27	22	48	30
Sheet Metal Workers	27	15	29	28
Drywall and Ceiling Tile Installers	23	27	29	31
Roofers	10	8	20	18
Structural Iron and Steel Workers	10	23	12	50
Operating Engineers & Other Construction Equipment Operators	12	6	7	10
Painters, Construction and Maintenance	6	10	7	14
Total	324	366	552	796

Source: Bureau of Labor and Industries

CURRENT DEMAND

CONSTRUCTION OCCUPATIONS WITH LARGEST NUMBER OF ONLINE JOB POSTINGS PORTLAND-VANCOUVER METRO AREA, 2017 MONTHLY AVERAGE

Occupation	Average monthly online job postings, 2017
Construction Managers	149
Telecommunications Equipment Installers and Repairers, Except Line Installers	133
First-Line Supervisors of Construction Trades and Extraction Workers	124
Electricians	109
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	58
Construction Laborers	56
Carpenters	39
Construction and Building Inspectors	36
Plumbers, Pipefitters, and Steamfitters	31
Operating Engineers and Other Construction Equipment Operators	21
All Occupations In Sector	121

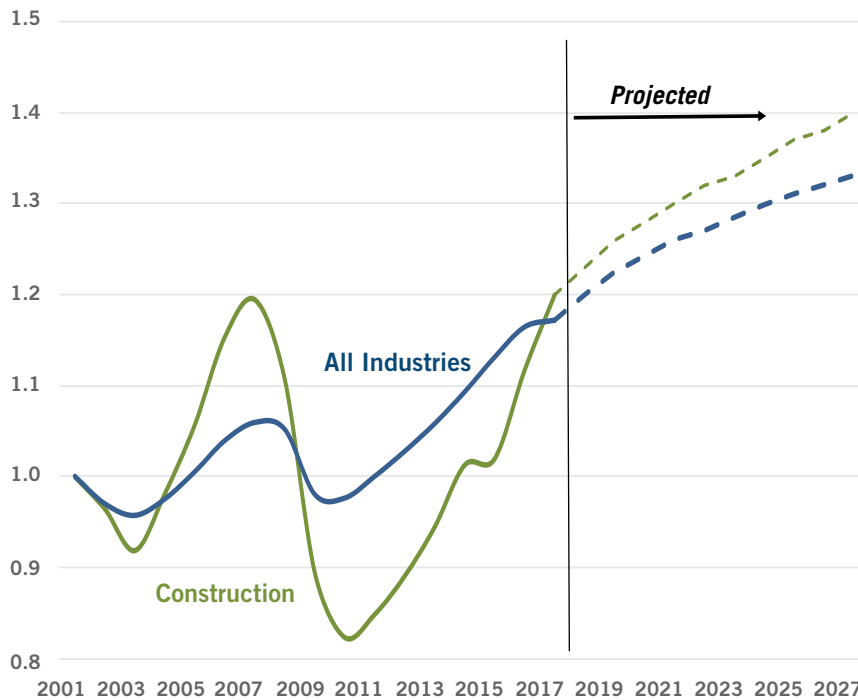
Source: EMSI
12-month average: Jan-Dec 2017

Data for top ten occupations listed include ads across all industries and is adjusted for duplications.

The number of online job advertisements for construction occupations in the Portland-Vancouver region has substantially increased since 2015. The expansion beyond traditional methods for finding Construction workers could be two-fold--historically low levels of employment has tightened the labor market, making it more difficult for Construction firms to find workers. Compounding the problem is the regional labor shortage, meaning that firms

LONG-TERM DEMAND

**HISTORICAL & PROJECTED GROWTH
PORTLAND-VANCOUVER METRO AREA**
2001 indexed to 1



Source: EMSI

Construction employment surpassed pre-recession levels during 2017 and intense demand should lead to continued strong growth.

Between 2017 and 2027, the sector is expected to add about 11,000 jobs for a growth rate of 17 percent; faster than the overall economy (14 percent).

The largest number of new jobs will be in Multnomah County. Southwest Washington will grow the fastest.

Construction will account for 1-in-13 new jobs between 2017 and 2027.

Growth will be driven by an expanding population. The Portland-Vancouver region is expected to add nearly 200,000 new residents between 2017 and 2027—double the rate of the national average. Solid job growth across the rest of the economy will also lead to more commercial and industrial projects and infrastructure work.

**CONSTRUCTION OCCUPATIONS ADDING THE LARGEST NUMBER OF JOBS
PORTLAND-VANCOUVER METRO AREA**

Occupation	2017	2027	Growth	Percent Growth	Share of Sector Growth	Projected Annual Growth Openings
Construction Laborers	6,840	8,267	1,427	21%	12%	143
Carpenters	8,201	9,601	1,400	17%	12%	140
Electricians	4,494	5,366	872	19%	8%	87
First-Line Supervisors of Construction Trades and Extraction Workers	3,666	4,367	701	19%	6%	70
Plumbers, Pipefitters, and Steamfitters	3,967	4,661	694	17%	6%	69
Painters, Construction and Maintenance	2,457	3,021	564	23%	5%	56
Roofers	2,107	2,665	558	26%	5%	56
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	1,380	1,817	437	32%	4%	44
Office Clerks, General	1,854	2,158	304	16%	3%	30
General and Operations Managers	1,712	1,994	282	16%	2%	28
Construction Managers	2,785	3,057	272	10%	2%	27
Cost Estimators	1,328	1,574	246	19%	2%	25
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	1,394	1,623	229	16%	2%	23
Cement Masons and Concrete Finishers	1,702	1,920	218	13%	2%	22
Sheet Metal Workers	1,424	1,602	178	13%	2%	18

Source: EMSI

Nationally, trade groups and industry experts have raised the possibility of a labor shortage in Construction. Workers left the industry during the depths of the recession, and many of them might have moved out of the area or found work in other occupations, and are thus unlikely to return.

THE COLUMBIA-WILLAMETTE WORKFORCE COLLABORATIVE



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